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STN
SEARCH, INSPEC, JAPIO, USPATFULL, INPADOC
5/23/2005

(FILE 'HOME' ENTERED AT 17:25:57 ON 23 MAY 2007)

FILE 'HCAPLUS, INSPEC, JAPIO, USPATFULL, USPAT2, INPADOC' ENTERED AT
17:26:45 ON 23 MAY 2007

L1 594081 S (MONO OR SINGLE) (8A) (CRYSTAL?)
L2 657 S (BULK(2W)NITRIDE)
L3 95822 S (MINERALIZ?)
L4 172862 S (AMMON? (8A) SOLUT? OR AMMON? (8A) LIQUID#)
L5 109356 S (REDUC? OR LOWER? OR DECREAS? OR LESS?) (8A) (IMPURIT? OR DOPAN)
L6 15117 S (LIN3 OR NAN3 OR KN3 OR CSN3)
L7 44 S (GROUP(W)I OR GROUP(W)II) (10A) (AZIDE#)
L8 100342 S (AZIDE#)
L9 59932 S (SUPERCRTIC?)

=> s 11 and 12 and 13 and 14 and 15

L10 5 L1 AND L2 AND L3 AND L4 AND L5

=> d 110 1-5 abs,bib

L10 ANSWER 1 OF 5 USPATFULL on STN

AB A crystalline composition is provided that includes gallium and nitrogen. The crystalline composition may have an amount of oxygen present in a concentration of less than about 3+10.sup.18 per cubic centimeter, and may be free of two-dimensional planar boundary defects in a determined volume of the crystalline composition. The volume may have at least one dimension that is about 2.75 millimeters or greater, and the volume may have a one-dimensional linear defect dislocation density of less than about 10,000 per square centimeter.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2007:46363 USPATFULL

TI Crystalline composition, wafer, and semi-conductor structure

IN D'Evelyn, Mark Philip, Niskayuna, NY, UNITED STATES

Park, Dong-Sil, Niskayuna, NY, UNITED STATES

LeBoeuf, Steven Francis, Schenectady, NY, UNITED STATES

Rowland, Larry Burton, Scotia, NY, UNITED STATES

Narang, Kristi Jean, Voorheesville, NY, UNITED STATES

Hong, Huicong, Niskayuna, NY, UNITED STATES

Arthur, Stephen Daley, Glenville, NY, UNITED STATES

Sandvik, Peter Micah, Clifton Park, NY, UNITED STATES

PA General Electric Company, Schenectady, NY, UNITED STATES, 12345 (U.S. corporation)

PI US 2007040181 A1 20070222

AI US 2006-376575 A1 20060315 (11)

RLI Continuation-in-part of Ser. No. US 2004-10507, filed on 13 Dec 2004, GRANTED, Pat. No. US 7078731 Continuation-in-part of Ser. No. US 2002-329981, filed on 27 Dec 2002, GRANTED, Pat. No. US 7098487

DT Utility

FS APPLICATION

LREP GENERAL ELECTRIC COMPANY, GLOBAL RESEARCH, PATENT DOCKET RM. BLDG.. K1-4A59, NISKAYUNA, NY, 12309, US

CLMN Number of Claims: 37

ECL Exemplary Claim: 1

DRWN 12 Drawing Page(s)

LN.CNT 1930

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 2 OF 5 USPATFULL on STN

AB Metal oxide nanoparticles are described that contain a non-metallic dopant selected from the group consisting of boron, carbon, silicon, germanium, nitrogen, phosphorous, arsenic, sulfur, selenium, tellurium, fluorine, chlorine, bromine, iodine, and combinations thereof. Methods

of making and using these doped metal oxide nanoparticles are also described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2006:247409 USPATFULL
TI Doped metal oxide nanoparticles and methods for making and using same
IN Burda, Clemens, Cleveland Heights, OH, UNITED STATES
PI US 2006210798 A1 20060921
AI US 2005-81862 A1 20050316 (11)
DT Utility
FS APPLICATION
LREP BRINKS HOFER GILSON & LIONE, P.O. BOX 10395, CHICAGO, IL, 60610, US
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 36 Drawing Page(s)
LN.CNT 1797
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 3 OF 5 USPATFULL on STN

AB A crystalline composition is provided. The crystalline composition may include gallium and nitrogen; and the crystalline composition may have an infrared absorption peak at about 3175 cm.sup.-1, with an absorbance per unit thickness of greater than about 0.01 cm.sup.-1.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2006:200116 USPATFULL
TI Crystalline composition, wafer, and semi-conductor structure
IN D'Evelyn, Mark Philip, Niskayuna, NY, UNITED STATES
Park, Dong-Sil, Niskayuna, NY, UNITED STATES
LeBoeuf, Steven Francis, Schenectady, NY, UNITED STATES
Rowland, Larry Burton, Scotia, NY, UNITED STATES
Narang, Kristi Jean, Voorheesville, NY, UNITED STATES
Hong, Huicong, Niskayuna, NY, UNITED STATES
Arthur, Stephen Daley, Glenville, NY, UNITED STATES
Sandvik, Peter Micah, Clifton Park, NY, UNITED STATES
PA General Electric Company, Schenectady, NY, UNITED STATES (U.S. corporation)
PI US 2006169996 A1 20060803
AI US 2006-376640 A1 20060315 (11)
RLI Continuation-in-part of Ser. No. US 2004-10507, filed on 13 Dec 2004, PENDING Continuation-in-part of Ser. No. US 2002-329981, filed on 27 Dec 2002, PENDING
DT Utility
FS APPLICATION
LREP GENERAL ELECTRIC COMPANY, GLOBAL RESEARCH, PATENT DOCKET RM. BLDG. K1-4A59, NISKAYUNA, NY, 12309, US
CLMN Number of Claims: 31
ECL Exemplary Claim: 1
DRWN 12 Drawing Page(s)
LN.CNT 1932
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 4 OF 5 USPATFULL on STN

AB An improved mineralizer used for a process for obtaining bulk mono-crystalline gallium-containing nitride of a general formula of $Al_{\text{sub.}x}Ga_{\text{sub.}1-x}N$, where $0 \leq x < 1$ in an environment of supercritical ammonia-containing solution has been now proposed. According to the invention growth rate and quality of the product obtained can be controlled by suitable selection of mineralizer, so as to ensure presence of ions of Group I element (IUPAC 1989), preferably sodium in combination with other components selected from the group consisting of Group I elements (IUPAC 1989), ions of Group II elements (IUPAC 1989), one or more substances containing oxygen-free species causing some weakening of

the ammono-basic nature of the supercritical solvent, optionally in combination with Group II elements (IUPAC 1989), preferably calcium or magnesium. The improved bulk mono-crystals obtained thereby are intended mainly for use in the field of opto-electronics.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AN 2006:143418 USPATFULL

TI Process for obtaining bulk-crystalline gallium-containing nitride

IN Dwilinski, Robert, Warsaw, POLAND

Doradzinski, Roman, Warsaw, POLAND

Garczynski, Jerzy, Lomianki, POLAND

Sierzputowski, Leszek, Union, NJ, UNITED STATES

Kanbara, Yasuo, Tokushima, JAPAN

PI US 2006120931 A1 20060608

AI US 2003-538349 A1 20031211 (10)

WO 2003-JP15903 20031211

20050610 PCT 371 date

PRAI PL 2002-357695 20021211

PL 2002-357704 20021211

PL 2002-357706 20021211

DT Utility

FS APPLICATION

LREP WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP, 1250 CONNECTICUT AVENUE, NW, SUITE 700, WASHINGTON, DC, 20036, US

CLMN Number of Claims: 9

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 1006

~~CAS INDEXING IS AVAILABLE FOR THIS PATENT.~~

L10 ANSWER 5 OF 5 USPATFULL on STN

AB A process for obtaining bulk mono-crystalline gallium-containing nitride, eliminating impurities from the obtained crystal and manufacturing substrates made of bulk mono-crystalline gallium-containing nitride has been now proposed. According to the invention, the process for obtaining of mono-crystalline gallium-containing nitride from the gallium-containing feedstock in a supercritical ammonia-containing solvent with mineralizer addition is characterized in that the feedstock is in the form of metallic gallium and the mineralizer is in the form of elements of Group I and/or their mixtures, and/or their compounds, especially those containing nitrogen and/or hydrogen, whereas the ammonia-containing solvent is in the form of the mineralizer and ammonia, there are two temperature zones in each step of the process, and the feedstock is placed in the dissolution zone, and at least one mono-crystalline seed is deposited in the crystallization zone, and following the transition of the solvent to the supercritical state, the process comprises the first step of transition of the feedstock from the metallic form to the polycrystalline gallium-containing nitride, and the second step of crystallization of the gallium-containing nitride through gradual dissolution of the feedstock and selective crystallization of gallium-containing nitride on at least one mono-crystalline seed at the temperature higher than that of the dissolution of the feedstock, while all the vital components of the reaction system (including the feedstock, seeds and mineralizer) invariably remain within the system throughout the whole process, and consequently bulk mono-crystalline gallium-containing nitride is obtained. The invention relates also the post-treatment (slicing, annealing and washing) of the thus obtained crystals. The improved process and the bulk monocrystals obtained thereby are intended mainly for use in the field of opto-electronics.

~~CAS INDEXING IS AVAILABLE FOR THIS PATENT.~~

AN 2006:44069 USPATFULL
TI Process for obtaining bulk mono-crystalline
gallium-containing nitride
IN Dwilinski, Robert, Warsaw, POLAND
Doradzinski, Roman, Warsaw, POLAND
Garczynski, Jerzy, Lomianki, POLAND
Sierzputowski, Leszek, Union, NJ, UNITED STATES
Kanbara, Yasuo, Anan-shi, JAPAN
PA AMMONO SP. z o.o., Warsaw, POLAND, 00-377 (non-U.S. corporation)
NICHIA CORPORATION, Anan-shi, JAPAN, 774-8601 (non-U.S. corporation)

PI US 2006037530 A1 20060223
AI US 2003-537804 A1 20031211 (10)

WO 2003-JP15904 20031211

20050607 PCT 371 date

30/5232804
PRAI PL 2002-357697 20021211
PL 2003-357698 20021211
PL 2003-357699 20021211
PL 2003-357700 20021211
PL 2003-357701 20021211
PL 2003-357702 20021211
PL 2003-357703 20021211
PL 2003-357705 20021211

DT Utility

FS APPLICATION

LREP MORRISON & FOERSTER LLP, 1650 TYSONS BOULEVARD, SUITE 300, MCLEAN, VA,
22102, US

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 8 Drawing Page(s)

LN.CNT 1939

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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